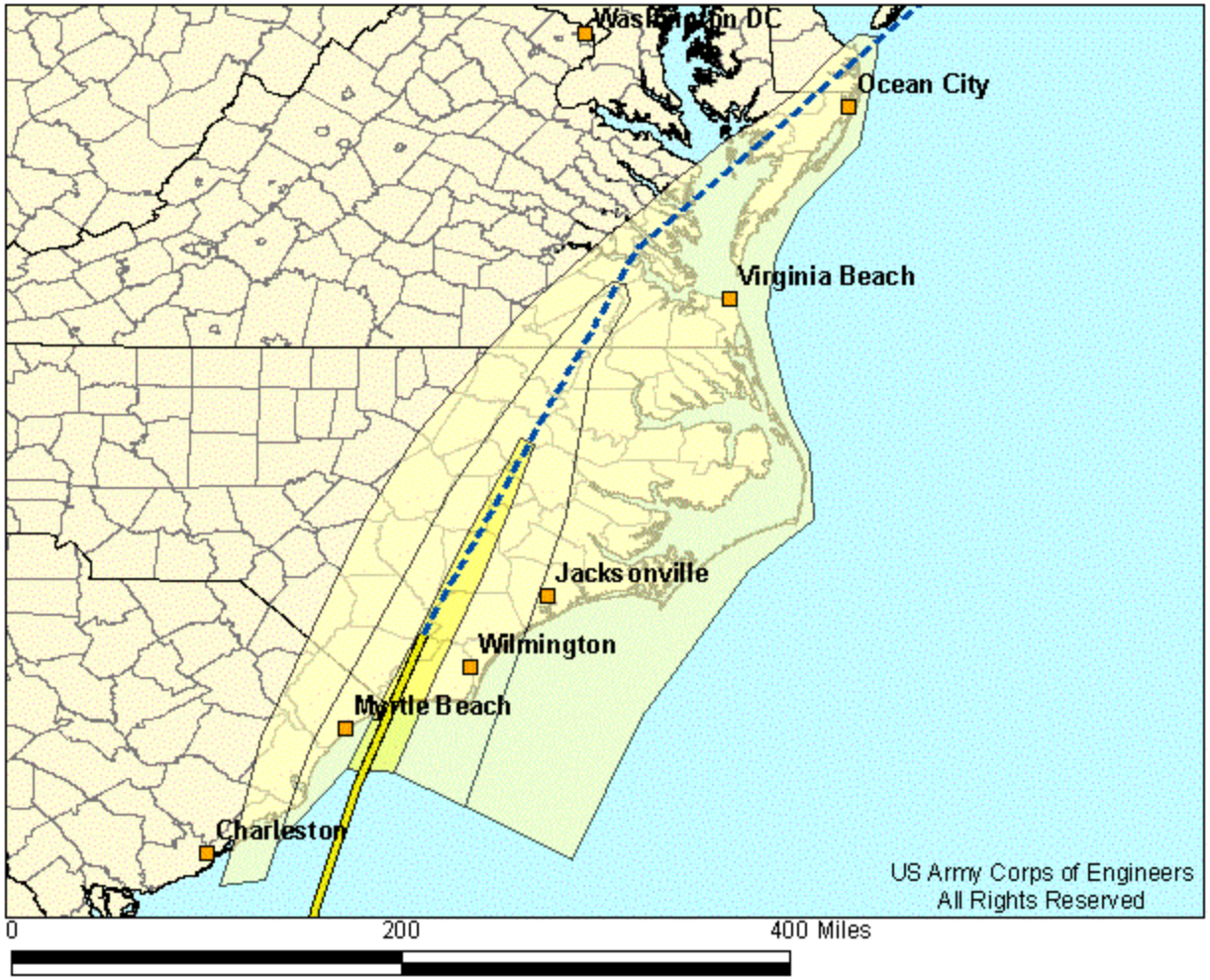
US Army Corps of Engineers

Hurricane Hanna Projected Damage Areas

Landfall Plus About 2 Hours

For Planning Purposes Only!



Post Landfall Projected Damage Areas

This model is based on a Category 1 storm making landfall near Wilmington, NC.

Forecast Track
Historic Track

Projected Damage Areas

- CAT 0-type damage
- CAT 1-type damage
- CAT 2-type damage
- CAT 3-type damage
- CAT 4-type damage
- CAT 5-type damage

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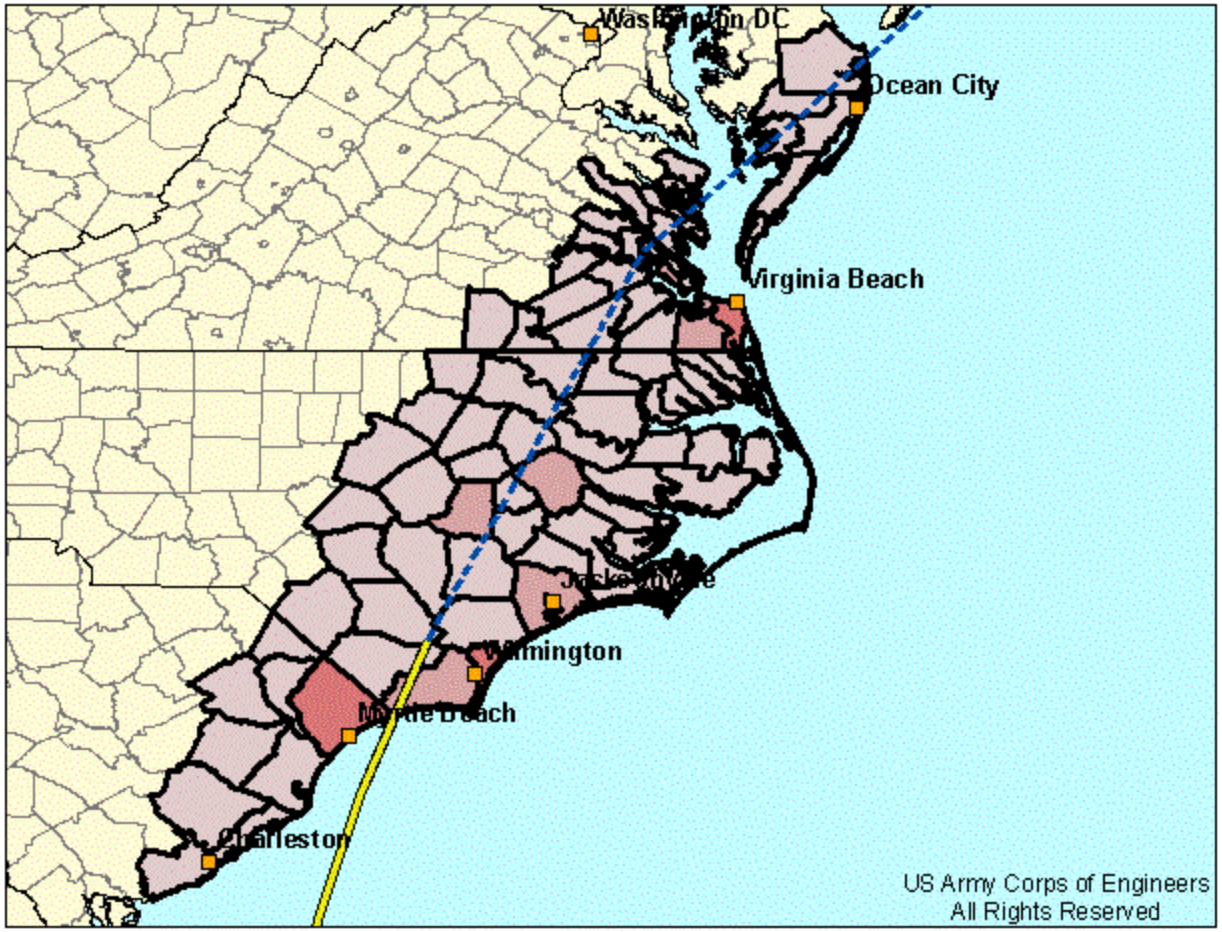
Hurricane Hanna Projected Damage Areas	
Generated By: Siemsen, LRL 0730 EDT 09/06/2008	
Sources: HURREVAC LRL-DEBRIS	Page 1 of 12

US Army Corps of Engineers

Hurricane Hanna Debris Model

Landfall Plus About 2 Hours

For Planning Purposes Only!



Post Landfall Debris Model Results

North Carolina - 2,225,000 Yards
Virginia - 1,182,000 Yards
South Carolina - 452,000 Yards
Maryland - 97,000 Yards
Delaware - 55,000 Yards

Model results per County on following page

This model is based on a Category 1 storm making landfall near Wilmington, NC.

Forecast Track
Historic Track

Debris

- < 100,000 cubic yards
- 100,000 - 249,999 cubic yards
- 250,000 - 499,999 cubic yards
- 500,000 - 999,999 cubic yards
- >1,000,000 cubic yards

Information provided on this page displays a Category 1 storm making landfall near Wilmington, NC. These projections are based on information from the NHC (0500 EDT 09/06/2008) forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Hanna Debris Model

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Siemsen, LRL 0730 EDT 09/06/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Debris Model

Landfall Plus About 2 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Delaware		Sussex	55,000
Delaware	55,000		
Maryland		Somerset	15,000
		Wicomico	43,000
		Worcester	39,000
Maryland	97,000		
North Carolina		Beaufort	40,000
		Bertie	21,000
		Bladen	37,000
		Brunswick	198,000
		Camden	7,000
		Carteret	46,000
		Chowan	9,000
		Columbus	71,000
		Craven	70,000
		Cumberland	21,000
		Currituck	15,000
		Dare	24,000
		Duplin	93,000
		Edgecombe	65,000
		Franklin	11,000
		Gates	9,000
		Greene	27,000
		Halifax	47,000
		Harnett	19,000
		Hertford	22,000
		Hyde	7,000
		Johnston	89,000
		Jones	15,000

State	Yards per State	County	Yards per County
North Carolina (continued)		Lenoir	78,000
		Martin	21,000
		Nash	56,000
		New Hanover	295,000
		Northampton	25,000
		Onslow	127,000
		Pamlico	11,000
		Pasquotank	24,000
		Pender	90,000
		Perquimans	9,000
		Pitt	189,000
		Robeson	31,000
		Sampson	67,000
		Tyrrell	5,000
		Wake	14,000
		Warren	2,000
		Washington	11,000
		Wayne	135,000
		Wilson	72,000
North Carolina	2,225,000		
South Carolina		Berkeley	< 1,000
		Charleston	6,000
		Dillon	< 1,000
		Florence	< 1,000
		Georgetown	63,000
		Horry	371,000
		Marion	7,000
		Williamsburg	5,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Hanna Debris Model

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Sources:
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LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Debris Model

Landfall Plus About 2 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
South Carolina	452,000		
(continued)			
Virginia		Accomack	26,000
		Brunswick	< 1,000
		Charles City	< 1,000
		Chesapeake city	129,000
		Emporia City	4,000
		Franklin City	12,000
		Gloucester	25,000
		Greensville	6,000
		Hampton City	98,000
		Isle Of Wight	23,000
		James City	41,000
		King And Queen	< 1,000
		Lancaster	6,000
		Mathews	7,000
		Middlesex	6,000
		New Kent	< 1,000
		Newport News city	128,000
		Norfolk City	161,000
		Northampton	8,000
		Northumberland	4,000
		Poquoson City	7,000
		Portsmouth city	72,000
		Prince George	3,000
		Southampton	24,000
		Suffolk City	47,000
		Surry	7,000
		Sussex	9,000
		Virginia Beach city	286,000
		Williamsburg city	7,000

State	Yards per State	County	Yards per County
Virginia		York	36,000
Virginia	1,182,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Hurricane Hanna Debris Model

Generated By:
Siemsen, LRL 0730 EDT 09/06/2008

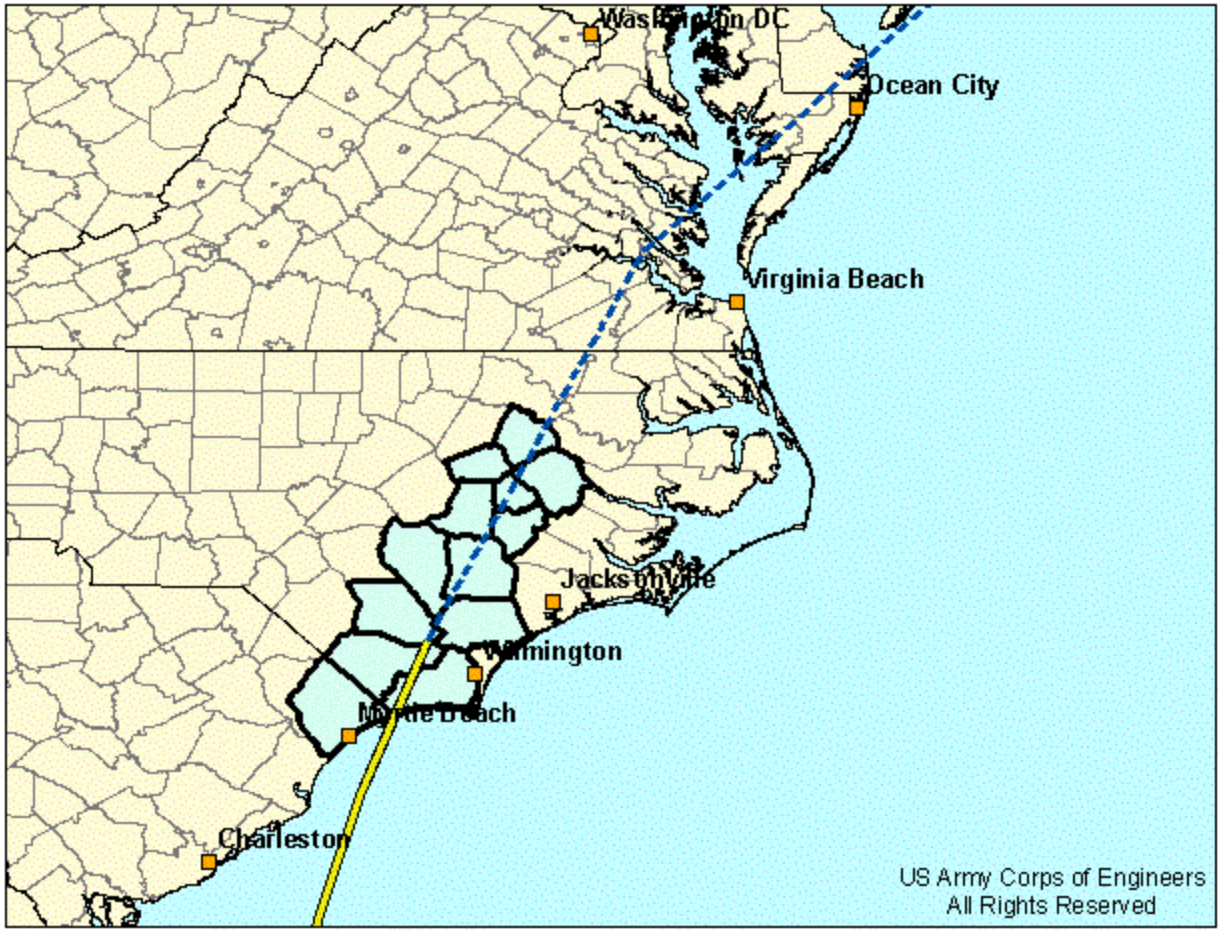
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Commodities Model

Landfall Plus About 2 Hours

For Planning Purposes Only!



Post Landfall Water Model Results

Day One / Day Two / Day Three
North Carolina – 4/7/14 Truckloads
South Carolina – 1/1/1 Truckloads

Model results per County on following page

This model is based on a Category 1 storm making landfall near Wilmington, NC.

Forecast Track
Historic Track

Commodities

- < 5 Trucks Each
- 5 - 10 Trucks Each
- 11 - 20 Trucks Each
- 21 - 40 Trucks Each
- > 40 Trucks Each

Information provided on this page displays a Category 1 storm making landfall near Wilmington, NC. These projections are based on information from the NHC ***(0500 EDT 09/06/2008)*** forecast. The amount of commodities forecasted is based on Mission Guide Book requirements and SME input. The graphic represents single day needs with full distribution system in place and operating.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Hanna Commodities Model	
Generated By: Siemsen, LRL 0730 EDT 09/06/2008	
Sources: HURREVAC LRL-DEBRIS	Page 5 of 12

US Army Corps of Engineers

Hurricane Hanna Commodities Model

Landfall Plus About 2 Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
North Carolina		Bladen	1
		Brunswick	2
		Columbus	1
		Duplin	2
		Edgecombe	1
		Greene	1
		Lenoir	1
		Pender	1
		Pitt	1
		Sampson	1
		Wayne	1
		Wilson	1
North Carolina	14		
South Carolina		Horry	1
South Carolina	1		

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested needs based on phased deployment of a commodities distribution system.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Hurricane Hanna Commodities Model

Generated By:
Siemsen, LRL 0730 EDT 09/06/2008

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Temporary Roofing Model

Landfall Plus About 2 Hours

For Planning Purposes Only!

Post Landfall Temporary Roofing Model Results

North Carolina - 500

Model results per County on following page

This model is based on a Category 1 storm making landfall near Wilmington, NC.

Forecast Track
Historic Track

Temporary Roofing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 1 storm making landfall near Wilmington, NC. These projections are based on information from the NHC (0500 EDT 09/06/2008) forecast. Temporary roofing is based on 2% in CAT 1.

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Hurricane Hanna Roofing Model	
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US Army Corps of Engineers

Hurricane Hanna Temporary Roofing Model

Landfall Plus About 2 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
North Carolina		Bladen	< 100
		Brunswick	300
		Columbus	< 100
		Duplin	200
		Edgecombe	< 100
		Greene	< 100
		Lenoir	< 100
		Pender	< 100
		Pitt	< 100
		Sampson	< 100
		Wayne	< 100
		Wilson	< 100
North Carolina	500		
South Carolina		Horry	< 100
South Carolina			

Temporary roofing is based on 2% in CAT 1.

Details about this model may be obtained at http://www.enqlink.usace.army.mil
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Hurricane Hanna Roofing Model

Generated By:
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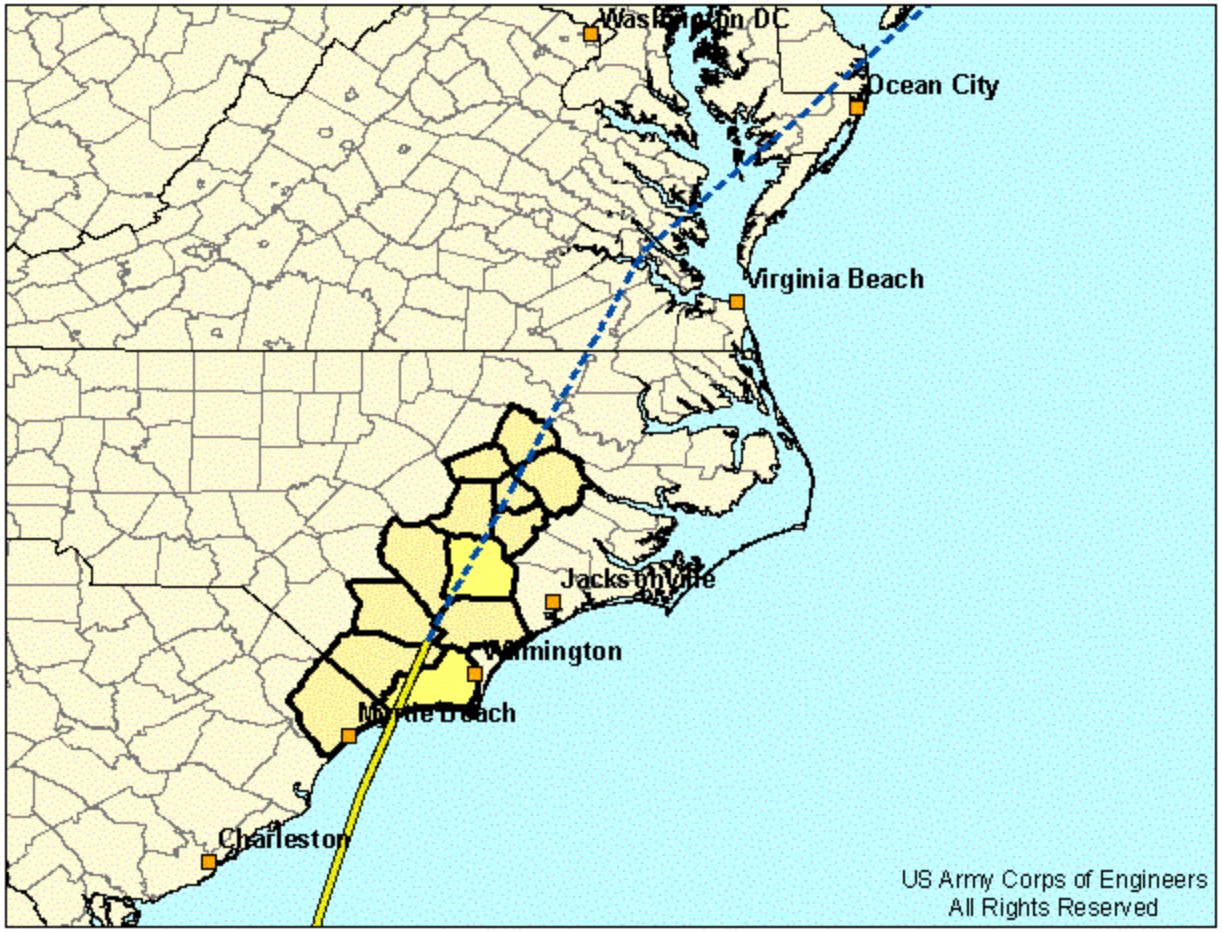
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Population Model

Landfall Plus About 2 Hours

For Planning Purposes Only!



Post Landfall Population Model Results

North Carolina - 142,000
South Carolina - 8,000

Model results per County on following page

This model is based on a Category 1 storm making landfall near Wilmington, NC.

Forecast Track
Historic Track

Population

- < 25,000 persons
- 25,000 - 99,999 persons
- 100,000 - 174,999 persons
- 175,000 - 249,999 persons
- > 250,000 persons

Information provided on this page displays a Category 1 storm making landfall near Wilmington, NC. These projections are based on information from the NHC (0500 EDT 09/06/2008) forecast. The numbers of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2007 values).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Hanna Population Model	
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Sources: HURREVAC LRL-DEBRIS	Page 9 of 12

US Army Corps of Engineers

Hurricane Hanna Population Model

Landfall Plus About 2 Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
North Carolina		Bladen	2,000
		Brunswick	44,000
		Columbus	6,000
		Duplin	30,000
		Edgecombe	4,000
		Greene	13,000
		Lenoir	12,000
		Pender	12,000
		Pitt	7,000
		Sampson	< 1,000
		Wayne	12,000
		Wilson	< 1,000
North Carolina	142,000		
South Carolina		Horry	8,000
South Carolina	8,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2007 values.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Hurricane Hanna Population Model

Generated By:
Siemsen, LRL 0730 EDT 09/06/2008

Sources:
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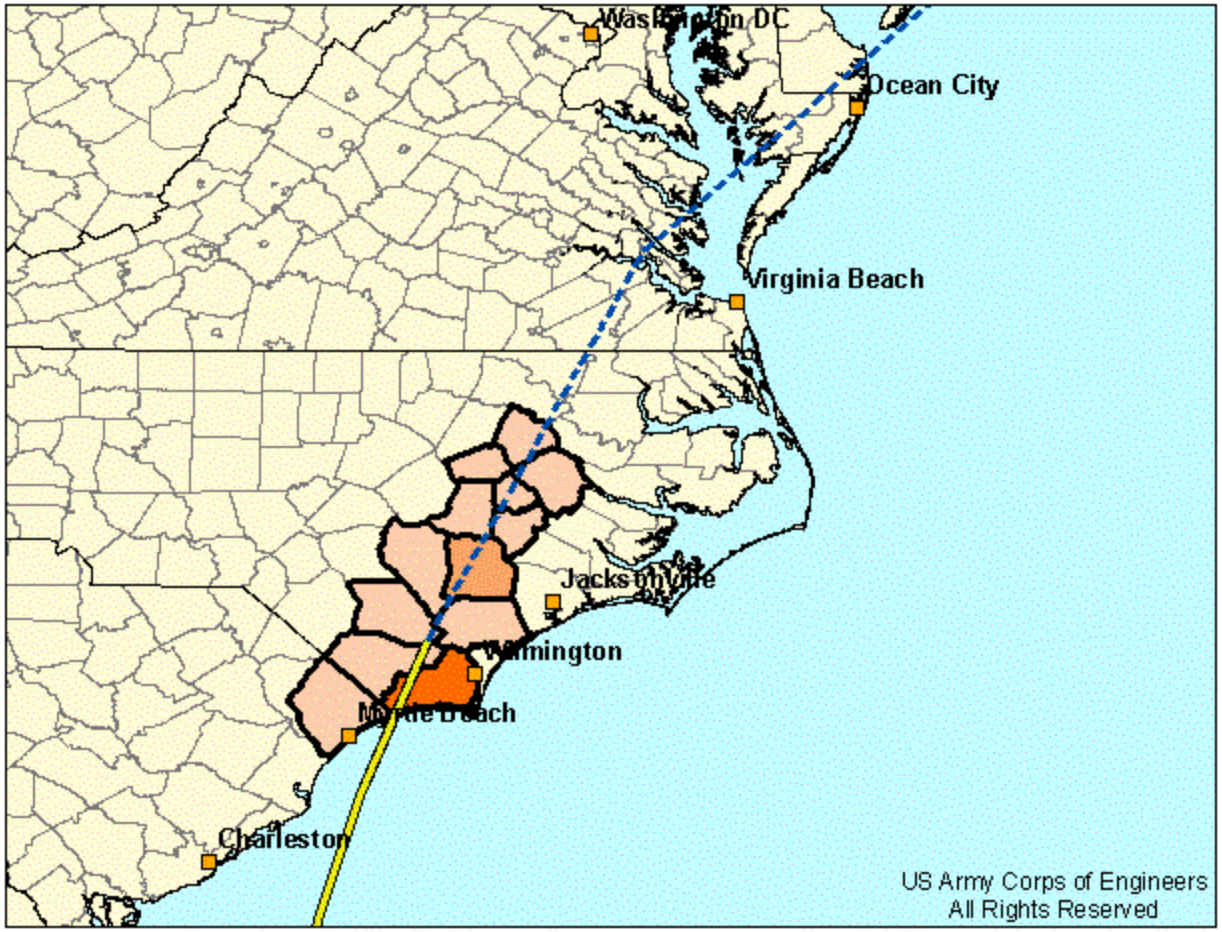
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Hanna Households Model

Landfall Plus About 2 Hours

For Planning Purposes Only!



Post Landfall Households Model Results

North Carolina - 58,000
South Carolina - 4,000

Model results per County on following page

This model is based on a Category 1 storm making landfall near Wilmington, NC.

Forecast Track
Historic Track

Households

- < 7,500 households
- 7,500 - 14,999 households
- 15,000 - 24,999 households
- 25,000 - 49,999 households
- > 50000 households

Information provided on this page displays a Category 1 storm making landfall near Wilmington, NC. These projections are based on information from the NHC (0500 EDT 09/06/2008) forecast. The numbers of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2007 values).

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Hurricane Hanna Households Model	
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Sources: HURREVAC LRL-DEBRIS	Page 11 of 12

US Army Corps of Engineers

Hurricane Hanna Households Model

Landfall Plus About 2 Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
North Carolina		Bladen	< 1,000
		Brunswick	19,000
		Columbus	3,000
		Duplin	11,000
		Edgecombe	2,000
		Greene	5,000
		Lenoir	5,000
		Pender	5,000
		Pitt	3,000
		Sampson	< 1,000
		Wayne	5,000
		Wilson	< 1,000
North Carolina	58,000		
South Carolina		Horry	4,000
South Carolina	4,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2007 values.

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Hurricane Hanna Households Model

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HURREVAC
LRL-DEBRIS